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TITLE : ROTATION DETECTOR

ABSTRACT : PROBLEM TO BE SOLVED: To provide a precise and highly reliable rotation detector even exposed at low-temperature in a cold district by setting the thickness of the elastic magnetic material to a specified value or less.

SOLUTION: An elastic magnetic material requires a thickness ≤ 1.5 mm. Namely, when the thickness exceeds 1.5 mm, the reduction in magnetic force of the elastic magnetic material is increased when exposed to a low temperature of about -40°C , resulting in impossibility of measurement or reduction in reliability of measured value. When the thickness is thinner than it is required, the magnetic force necessary for rotation detection cannot be obtained to make a precise measurement difficult. The thickness is generally desirable to be ≥ 0.4 mm. As the component of a matrix constituting the elastic magnetic material together with a magnetism imparting material, those excellent in heat resistance such as acrylic rubber elastomer, fluorinated rubber elastomer, silicone elastomer or the like are preferred. As the magnetism imparting material for adding magnetism to the elastic material to constitute the elastic magnetic material, ferrite is preferably used.

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